

2. Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A color-mixing lighting system ~~(1)~~ comprising:
a light-emitting diode ~~(6, 7)~~ emitting first visible light having a first peak wavelength in a first spectral range,
a fluorescent material ~~(8, 9)~~ converting a portion of the first visible light into second visible light having a second peak wavelength in a second spectral range,
the second visible light having a full width at half maximum (FWHM) of at least 50 nm.
2. (Currently Amended) A color-mixing lighting system as claimed in claim 1, ~~characterized in that~~wherein the second visible light is red light, the second peak wavelength being in the range from 590 to 630 nm.
3. (Currently Amended) A color-mixing lighting system as claimed in claim 2, ~~characterized in that~~wherein the second peak wavelength is in the range from 600 to 615 nm.

4. (Currently Amended) A color-mixing lighting system as claimed in claim 1-~~or~~-2, characterized in that wherein the first visible light-emitting diode (6) emits blue light, the first peak wavelength being in the range from 445 to 470 nm and the full-width at half maximum (FWHM) being in the range from 15 to 30 nm.
5. (Currently Amended) A color-mixing lighting system as claimed in claim 1-~~or~~-2, characterized in that wherein the lighting system comprises a further light-emitting diode (7) for emitting third visible light having a third peak wavelength in a third spectral range.
6. (Currently Amended) A color-mixing lighting system as claimed in claim 4, characterized in that wherein the further light-emitting diode (7) emits green light, the third peak wavelength being in the range from 510 to 550 nm and the full width at half maximum (FWHM) being in the range from 25 to 45 nm.
7. (Currently Amended) A color-mixing lighting system as claimed in claim 1-~~or~~-2, characterized in that wherein the fluorescent material (8) converts blue light into red light, the fluorescent material being selected from the group formed by SrS:Eu , $\text{Sr}_2\text{Si}_5\text{N}_8\text{:Eu}$, CaS:Eu , $\text{Ca}_2\text{Si}_5\text{N}_8\text{:Eu}$, $(\text{Sr}_{1-x}\text{Ca}_x)\text{S:Eu}$ and $(\text{Sr}_{1-x}\text{Ca}_x)_2\text{Si}_5\text{N}_8\text{:Eu}$ and $(x = 0.0-1.0)$.
8. (Currently Amended) A color-mixing lighting system as claimed in claim 1-~~or~~-2, characterized in that wherein the lighting system comprises a further fluorescent material

(9) converting a portion of the first visible light into third visible light having a third peak wavelength in a third spectral range with the third peak wavelength in the range from 510 to 550 nm and a FWHM of at least 40 nm.

9. (Currently Amended) A color-mixing lighting system as claimed in claim 7, characterized in that ~~in that~~ wherein the further fluorescent material (9) converts blue light into green light, the fluorescent material being selected from the group formed by (Ba_{1-x}Sr_x)₂SiO₄:Eu ($0 \leq x \leq 1$ [= $\frac{1}{2}$]) 0-1, preferably $x=0.5$), SrGa₂S₄:Eu, Lu₃Al₅O₁₂:Ce and SrSi₂N₂O₂:Eu.

10. (New) A color-mixing lighting system comprising:

a light-emitting diode emitting first visible light having a first peak wavelength in a first spectral range;

a luminescent material converting a portion of the first visible light into second visible light having a second peak wavelength in a second spectral range, wherein the color-mixing lighting system has a color-rendering index of at least 90.

11. (New) A color-mixing lighting system as claimed in claim 10, wherein the second visible light having a full width at half maximum (FWHM) of at least 50 nm.

12. (New) A color-mixing lighting system as claimed in claim 10, wherein the second visible light is red light, the second peak wavelength being in the range from 590 to 630 nm.
13. (New) A color-mixing lighting system as claimed in claim 12, wherein the second peak wavelength is in the range from 600 to 615 nm.
14. (New) A color-mixing lighting system as claimed in claim 11, wherein the first visible light-emitting diode emits blue light, the first peak wavelength being in the range from 445 to 470 nm and the full-width at half maximum (FWHM) being in the range from 15 to 30 nm.
15. (New) A color-mixing lighting system as claimed in claim 1, wherein the lighting system comprises a further light-emitting diode for emitting third visible light having a third peak wavelength in a third spectral range.
16. (New) A color-mixing lighting system as claimed in claim 4, wherein the further light-emitting diode emits green light, the third peak wavelength being in the range from 510 to 550 nm and the full width at half maximum (FWHM) being in the range from 25 to 45 nm.

17. (New) A color-mixing lighting system as claimed in claim 1, wherein the fluorescent material converts blue light into red light, the fluorescent material being selected from the group formed by SrS:Eu , $\text{Sr}_2\text{Si}_5\text{N}_8\text{:Eu}$, CaS:Eu , $\text{Ca}_2\text{Si}_5\text{N}_8\text{:Eu}$, $(\text{Sr}_{1-x}\text{Ca}_x)\text{S:Eu}$ and $(\text{Sr}_{1-x}\text{Ca}_x)_2\text{Si}_5\text{N}_8\text{:Eu}$ and $(0 \leq x \leq 1)$.
18. (New) A color-mixing lighting system as claimed in claim 1, wherein the lighting system comprises a further fluorescent material converting a portion of the first visible light into third visible light having a third peak wavelength in a third spectral range with the third peak wavelength in the range from 510 to 550 nm and a FWHM of at least 40 nm.
19. (New) A color-mixing lighting system as claimed in claim 7, wherein the further fluorescent material converts blue light into green light, the fluorescent material being selected from the group formed by $(\text{Ba}_{1-x}\text{Sr}_x)_2\text{SiO}_4\text{:Eu}$ ($0 \leq x \leq 1$), $\text{SrGa}_2\text{S}_4\text{:Eu}$, $\text{Lu}_3\text{Al}_5\text{O}_{12}\text{:Ce}$ and $\text{SrSi}_2\text{N}_2\text{O}_2\text{:Eu}$.